

ABSTRACT OF THE DISCLOSURE

A duobinary optical transmission apparatus has a characteristic of phase intersection without using an existing feedback-type precoder and an electrical low-pass
5 filter, thereby eliminating the influence by pseudo random bit sequence. The invention realizes a transmission system having increased immunity against dispersion of an optical fiber, and thus can increase transmission distance and transmission speed of an optical signal. The duobinary optical transmission apparatus includes: a light source outputting an optical carrier; an NRZ optical signal generating section receiving an
10 NRZ electrical signal, modulating the optical carrier into an NRZ optical signal according to the NRZ electrical signal, and outputting the NRZ optical signal; and a duobinary optical signal generating section receiving the NRZ electrical signal and modulating the NRZ optical signal into a duobinary optical signal. The use of a precoder on the NRZ electrical signal and low-pass filters prior to its passage to the
15 NRZ optical signal generating section are not required.